THE PHILOSOPHY OF IMMANUEL KANT

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FOREWORD

THERE is a story that Schopenhauer used to begin his lectures on Kant by saying: "Let no one *tell* you what is contained in the *Critique of Pure Reason*." The writer of this little book hopes that no one will imagine that he has disregarded this warning. There are no short-cuts to the understanding of a great philosopher, and the only way to appreciate the greatness of a philosophic system is to study the philosopher's own writings. All that the writer of a book like this can hope to do is to persuade others to undertake that study by interesting them in the problems with which it deals, and by offering a few suggestions which may help to an understanding of it. I have said nothing about the numerous other works which Kant wrote. For the three *Critiques* contain his system, and the understanding of that is all-important.

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THE PHILOSOPHY OF KANT

CHAPTER I

THE IDEA OF CRITICISM

"IT is a difficult matter," says Heine, "to write the life history of Immanuel Kant, for he had neither life nor history. He lived a mechanically ordered, abstract, old bachelor kind of existence in a quiet, retired alley in Königsberg, an old town in the north-east corner of Germany." The times he lived in were stirring enough. He was born in 1724, and died in 1804. He lived through the Seven Years' War that first made Germany a nation, he followed with sympathy the United States War of Independence, he saw the French Revolution and the beginning of the career of Napoleon. Yet in all his long life he never moved out of the province in which he was born, and nothing was allowed to interrupt the steady course of his lecturing, studying, and writing. "Getting up," continues Heine, "drinking coffee, lecturing, eating, going for a walk, everything had its fixed time; and the neighbours knew that it must be exactly half-past four when Immanuel Kant, in his gray frock-coat, with his Spanish cane in his hand, stepped from his door and walked towards the little lime-tree avenue, which is called after him the Philosopher's Walk." "Strange contrast," reflects Heine,

"between the man's outward life and his destructive, world-smashing thoughts." As the political history of the eighteenth century came to an end when the French Revolution spilled over the borders of France and drove Napoleon up and down Europe, breaking up the old political systems and inaugurating modern Europe, so its opposing currents of thought were gathered together in the mind of a weak-chested, half-invalid little man in Königsberg, and from their meeting a new era in philosophy began.

There are some philosophers to whom truth seems to come almost unsought, as an immediate authoritative vision. Kant was not one of these. His greatest work, the *Critique of Pure Reason*, was conceived when he was forty-eight, and published in 1781, when he was fifty-seven. It was the outcome of half a lifetime's patient study and thought. Heine says of him: "He was the perfect type of the small shopkeeper. Nature had meant him to weigh coffee and sugar, but fate willed that he should weigh other things and put a God on his scales, and his weighing was exact." The sneer is unjust, but there is something in the simile; for Kant's philosophy was a kind of taking stock, a survey of the great movement of thought from the time when the Renaissance and the Reformation made thought free, an attempt to estimate the achievements of the new sciences, to deal with their conflicting claims and ideals and say what it all came to. In Kant modern science, which began with Descartes and Galileo, first became conscious of itself.

This taking stock Kant called Criticism. His great books are all called Critiques—the *Critique of Pure Reason*, the *Critique of Practical Reason*, the *Critique of*

Judgment. He called his philosophy the Critical Philosophy or Critical Idealism. Essential to an understanding of Kant is an understanding of what he meant by criticism, and why he opposes it to dogmatism and scepticism; for the necessity and possibility of such a criticism was his great philosophical discovery. We have called Kant's work a survey of the achievements of the thought of his times, but it was very much more than that, and has a much more universal significance than could belong to any history of the thought of one epoch. For those achievements of thought, though great, were conflicting and partial. They contrasted with failure and barrenness in other directions, and they seemed to be due to different methods. This success of thought in one direction and its failure in another, and this uncertainty about the true method of science, were problems which at once presented themselves to an impartial observer, and Kant held that they could be answered only by taking stock of actual attainments, and by criticism of the powers and range of human thought in general.

The problem that presented itself to him will be understood if we look for a moment at the history of thought in the seventeenth and eighteenth centuries. One thing that Kant noted in it was the steady and sure progress of physics. "With the experiments of Galileo and Torricelli," he says in the preface to the second edition of the first *Critique*, "a new light flashed on all students of nature." The continued success of physics meant the successful application of mathematics to the concrete world, and along with it a remarkable development of mathematics itself. This sudden suc-

cess inspired men to feel that they had discovered a way of explaining the universe; they contrasted the fertility of their new methods with the barrenness of scholastic speculation in morals and theology; they felt confident that all that was wanted to the attainment of certain knowledge in all spheres of human interest was the extension of these methods. If men would only set to work the right way, they were sure that all difficulties would be overcome; and, by reflection upon their own success, they hoped to explain what the right way was.

Unfortunately this was not easy, for the advance from pure mathematics to physics, from a study of the nature of pure mathematical conceptions to an inquiry into the laws of falling bodies, implied a change whose nature was not clear to the men who had themselves made the advance. A conflict arose between those who thought more of the fact that knowledge, to be certain, must be capable of mathematical expression, and those who thought more of the basis of experiment and observation on which the new sciences depended, who remembered that these sciences began when Galileo, instead of thinking in the abstract how bodies ought to fall, dropped bodies of different weights from the top of the leaning tower of Pisa and observed what actually happened. Descartes was the great representative of the first school. He began by insisting on the difference between mathematical truth which could be, as he said, clearly and distinctly conceived, and ordinary opinion about things which was full of guesswork and imagination. Scientific knowledge was possible, he thought, only by apprehending the real or primary qualities of things which were mathematical, in contradistinction to their secondary qualities—their colour, smell, &c.—

which were less real. Thence he came to think that the real world was mathematical in nature, like a huge, intricate geometrical figure. The elements of mere fact, in our present knowledge, its dependence on observation and experiment, he thought of as temporary defects which the progress of science would remove. What we ordinarily call perception, indeed, in the sense of awareness of things in time and space, was described by Descartes' successors as confused thinking. Our knowledge of the world would, it was hoped, become a vast mathematical system, all the detail and complexity of which would be rigorously deducible from a few central truths.

This general way of thinking was called Rationalism. Kant ordinarily calls it Dogmatism. It was attacked by other scientists for its view of the nature of space and time. No one who reflects at all can fail to distinguish a difference between the way in which we see the truth of a geometrical proposition—that, *e.g.*, the three angles of a triangle are equal to two right angles—and the way in which we judge that such and such a figure drawn on a board is a triangle, or make judgments about the way in which things are actually arranged in space or succeed in time. Judgments of the latter kind involve words like "here" and "there," "now" and "then," words which are all a kind of pointing. It seems impossible from considering the nature of a triangle to deduce why any existing thing should be called triangular, and all statements about the position of things in space and time seem to be derived not from a consideration of the general nature of space and time, but from observation. Now the science which had made perhaps the most striking progress in the time we are speaking of, physical astronomy, in-

volved any number of statements about the position of bodies in space. The Rationalist school admitted this, but held that that was due to the fact that science was not sufficiently thought out. In time, they hoped, all statements about position in space would disappear. To think of things in spatial order was to think confusedly. Newton, on the other hand, held that space could not be explained away, that astronomy implied an absolute space in which things existed, that the spatial relations of things could not be explained by the nature of the things themselves, but only by a reference to absolute space in which they all were. This meant that observation or perception was something of which you could not hope and should not wish to get rid, and that an ideal of knowledge in which all applied mathematics should have been transmuted into pure mathematics was a vain one. Astronomy implied both mere observation and apprehension of necessary relations. Here was a science which seemed to employ both methods together. Galileo, in fact, could not have made his discovery without observation, but men had observed bodies falling for ages without discovering the laws of motion. Further, the laws of motion, once discovered, made men in some degree independent of observation, made them able to say of actual concrete things not only what had happened, but what must happen.

Such difficulties as these arose from reflection on the aims and methods of the mathematical sciences, but there was much genuinely scientific inquiry in the seventeenth and eighteenth centuries, which showed no signs of taking mathematical form; chemistry and biology, for example, were still almost entirely empir

cal. Furthermore, thinkers were not concerned with science alone. These centuries saw a great revival of interest in speculation on human affairs, history, politics, morals and theology. England, which was the home of free discussion on questions of politics and morals, and where, more than in most other countries, there was free discussion on theology, became also the home of empiricism. The empirical movement, indeed, drew much of its impetus from a reaction against Hobbes, the only great English thinker who unhesitatingly applied the mechanical and deterministic assumptions of the new sciences to morals and politics, and arrived by this uncompromising method at results so obviously repellent that no man of any sense could accept them, and so consistently presented that they could not be refuted save by a refutation of the assumptions upon which they were founded. Such a refutation was, in fact, undertaken by Locke, the first great representative of the empirical school. He was interested alike in the more obviously empirical sciences of chemistry and biology, and in politics. He was not a very consistent or systematic thinker, but he had other gifts perhaps as valuable. He was a man of great common sense and breadth of view, and was able thereby to take a conspectus of the general situation in the various spheres of inquiry, to notice the obvious differences in our knowledge of mathematics, of chemical and biological fact, and of theology, and to see that these constituted a problem. We find in him the first statement of the necessity of philosophical criticism. It is contained in his account of the origin of the *Essay concerning Human Understanding*. "Were it fit to trouble thee with the history of this *Essay*, I should tell

thee that five or six friends, meeting at my chamber, and discoursing on a subject very remote fro this" (they were discussing the "principles of morality and revealed religion"), "found themselves quickly at a stand, by the difficulties that rose on every side. After we had awhile puzzled ourselves, without coming any nearer a resolution of those doubts which perplexed us, it came into my thoughts that we took a wrong course; and that, before we set ourselves upon inquiries of that nature, it was necessary to examine our own abilities, and see what *objects* our understandings were, or were not, fitted to deal with."

We have here the same general starting point of inquiry as we shall afterwards find in Kant. There are certain obstinate puzzles which we meet with in discussion which can only be solved by going back and inquiring into the nature of knowledge and the powers of our minds. Unfortunately, as Kant points out, Locke went the wrong way about his task. He describes it as "a plain historical inquiry." He thought that he had only to look into his mind and see what was in it, as he might open a door and look into a room. The result is that he thinks of all knowledge as consisting simply in looking at what is present to the mind. We can know, therefore, whatever can be present to the mind, and the limitations of knowledge are discovered by asking what can be so present to the mind. The conclusions to which he comes as to different spheres of human inquiry are roughly these: We can have knowledge of mathematics because there we are concerned only with ideas present to the mind, and with noting their agreement and disagreement. We can have no knowledge of such questions as the immortality of the soul, or the nature of spirits, for they are

beyond our observation. As regards existing things, we can have knowledge of them in so far as they are present to our minds, and no further. The meaning of "present to the mind" was never clearly analysed by Locke; but he meant, for example, that we can observe that an object which is yellow, and which we call gold, is also heavy, and can be dissolved by Aqua Regia, but we cannot say why that is so, and we ought not, on Locke's principles, to have any ground for supposing that these qualities will go on co-existing.

The element of truth in Locke's position is this. When we are examining concrete things like pieces of gold or any chemical substance, we find in them a number of varying qualities whose connection we cannot understand. We do not know why a metal of a certain specific gravity should also be yellow; we can only note the fact. Hence in chemistry our method must be quite different from the method of mathematics. In mathematics we start from the definition, and we can understand the connection of the properties of a geometrical figure, and see that they all follow necessarily from the definition. But in sciences like chemistry a definition does not take us any further; we can only find out the properties of a substance by observation and experiment. Locke explains this difference by saying that in the former case we are only concerned with agreement among our own ideas, in the second place we are concerned somehow with things outside us. This explanation will not stand. It is not true that mathematics is simply analysis of an arbitrary definition, as Locke seems to suggest. It involves construction, or, as Kant calls it, synthesis. It is a process of discovering new truths. Secondly, our statements about concrete objects are not statements of qualities

we see co-existing at the moment. They are statements about all gold or all men; in other words, they are universal, and Locke found it impossible to explain the universality of such propositions—what we mean, *e.g.* when we talk about the nature of gold or of man, not of this gold or this man that I see before me. Lastly, this distinction of mathematics and the empirical sciences by a distinction of spheres does not allow, as we saw, for a science like astronomy, which builds on mathematics and yet applies to the concrete world.

These difficulties were seen more clearly by Hume, at once the greatest and the most thorough-going of empiricists. He cut the knot in regard to mathematics by asserting that geometry, just because it has clearly an application to the existing world, had no more certainty than any other empirical inquiry, while arithmetic and algebra, he agreed, were certain, but confined their application to the sphere of our own ideas. Both positions are almost obviously inconsistent with the facts. In considering the nature of our judgments about concrete existences he raised a more profound problem. All such judgments, as he said, imply the principle of causation, or of what is called, in modern times, the principle of the uniformity of nature. That principle we take with us in our investigation of the existing world. Yet, as Hume saw, we do not observe causes; we only observe succession and change. We seem, therefore, to put into the world we see a necessity and uniformity which the observed facts do not warrant. How is this to be explained?

Hume's answer is ingenious. The principle of causation cannot be rationally justified, and the necessary connection we predicate of changes in the outside world

is not in the things; it is only a feeling in ourselves, and is the result of custom. After seeing the same succession several times, we come somehow to feel differently about it, and that feeling of difference we express by saying that we have before us an instance not of simple succession, but of cause and effect.

This is not the place to discuss the difficulties of Hume's position; it is enough to notice how entirely passive it makes the mind, and how alien such an explanation is from the spirit of inquiry and discovery. If cause is simply the effect of custom on the mind, then the facts either produce that effect or they do not. In neither case is there anything to find out. But the scientist, in investigating causes, however strongly he may hold that he has to observe the facts, knows also that he has a problem to solve, that he has to discover the right way to go about it, must adopt some principle in dealing with the facts. Pure passivity will help him little.

Hume's account of causation, then, is really a denial of even empirical science, and yet it helped to make clear an important truth; for, although we do not get the *principle* of causation from experience, we have to go to experience to discover causal laws. We do not discover causation by analysing a cause and seeing that it is such that, from its nature, it must produce a certain effect. All knowledge of causation goes back to observed succession, though all cases of observed and even repeated succession are not cases of causation. Hume, therefore, was right in saying that where there could be no observed succession there could be no knowledge of causation.

Both the rationalistic and the empirical explanations of science had failed, the one because it could find no

room for observation of facts, the other because it could find no room for principles governing that observation; and we shall see that Kant started with a consciousness of this double failure. He saw that Hume's criticism of causation raised problems for which the rationalist had no answer, and yet that the position reached by Hume was incompatible with the existence of science.

The same failure of both rationalism and empiricism had become evident in another sphere—that of morals and religion. The relation of philosophy to science is always twofold. Philosophy is partly concerned with analysing and reflecting on the methods of the different sciences, partly with seeking to adjust the rival and conflicting claims of the two great departments of man's life—science and religion.

It might seem, at first sight, as though in morals and religion rationalism were the only possible method to be approved by philosophy, for, inasmuch as morals are concerned with what ought to be, not with what is, they cannot depend on observation, but must be deduced from some principle above experience; nor are objects of religion, God and the soul, objects of observation. No man can "by searching find out God."

It was natural, therefore, that both on the Continent and in England morality and religion began by being rationalistic. Descartes believed that his mathematical method could be applied with success to demonstrate the truths of religion, while Locke includes morality along with mathematics among the a priori and certain sciences. But the history of eighteenth century controversy showed that, in spite of rationalist methods, neither morality nor religion could attain that certainty and general agreement which marked the mathematical sciences. Spinoza, applying the same method as

Descartes, but with more consistency, arrived at a conception of God which most of his contemporaries regarded as "horrid atheism," and the general result of rational theology is well described by one of Kant's correspondents when he says that the more proofs of the existence of God he learnt, the more his doubts increased. In England the attempts made to found morality upon rationalist principles produced systems too barren to withstand the attack of empiricism fortified by the growing interest in history and anthropology. The Deist movement, an attempt to free religion from the incrustations of faith and deduce it from pure reason, showed that a religion founded on pure reason contained nothing worth believing. In Locke we have the final discrediting of reason in these spheres. He shows ingeniously that "the good Bishop Berkeley's" argument for the existence of God could be turned round to disprove the existence of the soul, and concluded that religion was a sphere with which reason had no concern. In the sphere of morals the distinction between what ought to be and what is, the distinction on which rationalistic morals are based, had been discredited by a reduction of all conduct to Utilitarianism, a search for pleasure and a flight from pain mediated by sympathy. The consequences are described by Kant in his preface to the *Critique of Pure Reason*: "At present, after everything has been tried, so they say, and tried in vain, there reign in philosophy weariness and complete indifferentism, the mother of chaos and night in all sciences," though he hopefully continues, "but at the same time the source, or at least the prelude, of their near reform and of a new light, after an ill-applied study has rendered them dark, confused, and useless."

The earlier of the modern thinkers—Descartes among the rationalists, and Bacon among the empiricists—are full of hope. They have confidence in the human spirit. But increased reflection seemed only to bring distrust with it. The history of rationalism in theology showed that, in such matters, reason could prove absolutely opposing positions. Most men were ready to accept Hume's dictum that any one who follows his reason must be a fool and take refuge in an indifferentism which accepts whatever happens to be there.

The remedy for this state of affairs, Kant finds, is the critical method; for disbelief in reason is the reaction from overconfidence in it. Men had thought that reason could prove everything. Because these hopes had been frustrated, they now thought that it could prove nothing. Philosophy, he was convinced, would oscillate between overweening confidence and unwarranted distrust in itself until it had criticised human reason and discovered what it could do and what it could not. This is the task he set before himself. As the failure of eighteenth century philosophy, which had led to distrust of all philosophy, had been twofold—failure to give an intelligible explanation of the processes of scientific thought, and failure to find any standard by which to mediate between the conflicting claims of science and religion—the task of the critical philosophy is twofold. It attempts to explain and to justify the methods and assumptions of the sciences, and to find some solution of the conflict between theories of the world which seem to be based upon these methods and the assumptions and claims of morality and religion.

CHAPTER II

KANT'S STATEMENT OF THE PROBLEM. SYNTHETIC A PRIORI JUDGMENTS

In the preface to the second edition of the *Critique of Pure Reason* Kant finds the necessity of criticism in the contrast between certain rational sciences and metaphysics. Mathematics and physics, he observes, are obviously certain sciences. They are not empirical, they make steady progress, the results they have reached are secure and unanimously accepted, and have a certainty which no mere empirical investigation could attain. Metaphysics, on the other hand, though as ancient an inquiry, seems incapable of any settled results. Its history is a record, not of steady progress, but of bewildering marches and countermarches. The confident conclusions of one philosopher are as confidently denied by another, and the endless indecisive conflict produces in the minds of most men the conviction that in philosophy one doctrine is as good as another, and therefore none are worth very much. In the sphere where reason might be expected to be most at home, reason is impotent; yet the achievements of reason in those other spheres of the a priori sciences should preserve us from any general scepticism of the powers of reason. The task of criticism will be to examine the part played by reason in science, and to ask how far its failure in metaphysics is due to mistakes

in method, and how far to the different nature of the objects of the a priori sciences and of metaphysics. Kant points out that it was some time before either mathematics or physics followed the secure path of a science. The contrast between the haphazard and empirical observations of the Babylonians or Egyptians and the science of the Greeks was due to the discovery of a new method. The discovery by Galileo and Torricelli of modern physics came about by a similar revolution in method. The *Critique*, therefore, is to be a treatise on method. It will examine the method of reason in the sciences, and ask what conclusions can be drawn as to the proper method of metaphysics.

In the *Prolegomena*, a work in which he summarises the results of the first *Critique*, Kant describes the *Critique* as an answer to three questions: How is mathematics possible? How is pure science of nature or physics possible? and, How is metaphysics possible? Something of the nature of his answer to the third, and for him the most important, question, may be gathered from the fact that he explains that the third question should not be put in the form, How is metaphysics as a science possible? That question can only be answered by saying that it is not possible. But it is still allowable and necessary to ask, How is metaphysics possible as a natural disposition of the mind? For the main result of his inquiries into the place of reason in the sciences is to show that reason is successful in the sciences only because of the presence of certain conditions which are wanting in metaphysics. At first sight we might think it natural that the objects of metaphysics which Kant enumerates as God,

Freedom, and Immortality should be understood by reason, and find it more difficult to explain how reason should apply to the world of ordinary experience. The knowledge of everyday things is thought of as empirical, a matter of observation; while we are inclined to think that, if there is rational knowledge, it is knowledge of something else, of the mere agreement or disagreement of ideas (as Hume thought), or of the essences of things, known independently and apart from perception, as Plato thought. Kant argues that the combination of a priori reasoning and empirical observation, which earlier thinkers had found so puzzling in the exact sciences, exhibits the only possible use of reason, that reason, divorced from and with no reference to the world of experience, is barren, and that consequently metaphysics, if that be taken to mean a rational knowledge of objects which are outside of our experience, does not exist. We are left with metaphysics as a natural disposition; for Kant holds that the questions which metaphysics seeks to answer arise from the nature of reason and its relation to experience, though their answer is to be sought not in knowledge but in action.

This last point must be elucidated later. In the meantime we must see how this inquiry into the nature of reason crystalises itself into a seemingly abstract and trivial question: How are synthetic a priori judgments possible? It is baffling at first to find an inquiry of the scope we have indicated suddenly take such a narrow form, but a little consideration will show the importance of the question. Knowledge may be regarded as either analysis or synthesis, as a puzzling out or unravelling of what we somehow know already,

or as a putting together of what had previously been known or observed separately. The rationalist school, whom we described in the last chapter, were inclined to regard all knowledge as analytical. They thought of progress in knowledge as an advance from obscure to clear apprehension, and as a thinking out or making clear of something which had always been known somehow. Mathematics, the typical form of knowledge for the rationalists, had been thought of as the analysis of what was implied or given in the definitions. The conception of analytic a priori knowledge was thus familiar and simple. On the other hand, the empiricists had thought of knowledge as primarily synthesis—or, as they called it, association—a connecting together of ideas in their nature separate. Knowledge of a thing was thought of as the observing together of several ideas. Judgments about objects were regarded as judgments about the co-existence of separate ideas, ideas which were not thought of as being bound by any logical necessity. We do not understand why a substance with the specific gravity of gold should be yellow; we only observe the co-existence of certain qualities. The judgment, then, gold is yellow, is synthetic; it is an assertion of the co-existence of separate qualities. It is also empirical; it does not express a reasoned insight into the necessary connection of gold and yellow. It seems rather a record of observation. Synthetic knowledge, then, was thought of as in its nature empirical and a posteriori. Hume, who thought of all knowledge of the world in experience as synthetic, denied to such knowledge any necessity or certainty.

Hume, however, had noticed that the principle of causation, the judgment that every event has a cause,

is both a priori and synthetic. It is not, he held, derived from experience; rather it is a principle which guides our investigation of experience. It is not got from analysis of the notion of causation, nor is it simply concerned with the agreement or disagreement of our ideas. It asserts the necessary connection of two perfectly separate existing things. Hume himself, as we saw, tried to explain away these uncomfortable facts. He was too wedded to his belief that all knowledge was derived from passively received impressions to face them rightly. Kant, coming to the problem with different prepossessions, with the belief that most knowledge was analytic, was impressed with Hume's proof that the principle of causation could not be derived from analysis. The very basis of all science of nature, then, contradicted the belief that knowledge was analytical. Kant was also, with Hume, convinced that the principle of causation was not derived from experience, for he saw that experience assumed it. At the same time, he was not prepared, like Hume, to explain it away. Further, he saw that the problem raised by the principle of causation was a wide one. For other judgments, he held, are both synthetic and a priori, among them mathematical judgments. As we shall see afterwards, Kant proved the impossibility of arriving at knowledge of God or the soul by mere analysis of concepts. The judgments of metaphysics, about God or the soul, are also synthetic. But the validity of the judgments of metaphysics is under dispute. If we examine the synthetic a priori judgments of mathematics and of science whose validity is certain, we may then discover whether such judgments in metaphysics can or can not have similar certainty. We may

thus see that the problem of the possibility of synthetic a priori judgments is a restatement in logical terms of the problem of the relation between the a priori sciences and metaphysics.

Something more must be said of the importance of synthetic a priori judgments in Kant's account of knowledge. Their existence, we have seen, exposes the shortcomings of both rationalism, which allowed only for analytic a priori judgments, and empiricism, which allowed only of synthetic a posteriori judgments. Both these theories tended to regard knowledge as an analysis or description of what was present to the mind, and differed really only in their view of what was present. For, though the empiricist thought of empirical knowledge as synthesis, the synthesis was not ascribed to the mind, but to associating ideas; the mind only observed, and knowledge was merely the apprehension of objects by the senses. We see what is before our eyes, and notice the differences and similarities in what is before us. The rationalist conceived of thought as simply apprehending the nature of the real, freed from the illusions of sense perception. The mathematician has before his thought the nature of a triangle, and sees intellectually what that nature implies. We may try to mediate between the two by saying that while all knowing is observing, some is observing of objects of thought and some of objects of sense, the one being called understanding, the other perception. In most scientific judgments, however, we are not simply observing objects either of thought or of sense. Scientific judgments are more than descriptions of what is present to the mind or to the senses; they are essentially anticipations. They go beyond what is immediately

given. This is shown by the fact that it is the characteristic of a scientific proposition that it can be verified. If we understand it rightly, we see that it implies that, under such-and-such conditions, such-and-such things will be experienced. Hence the importance of experiment to science. A scientific proposition is, of course, grounded on observation of perceived fact and understanding of universal connection, but it is an assertion of something beyond that.

If, then, all scientific judgments are synthetic, and if both rationalism and empiricism failed to account for the manner in which such judgments go beyond what is immediately given to the mind, ought we not to say that the real problem for Kant is to show not merely how synthetic a priori judgments are possible, but how any synthetic judgments are possible? This seems at first sight plausible, but the suggestion must be rejected; for, when Kant asks how a judgment is possible, he is not asking how we come to make it, but how we know that it is valid. Now, if we consider any empirical judgment about the facts of nature, we must recognise that Locke and Hume were right in denying certainty to such judgments. In all general statements about concrete facts we to a certain extent go beyond our evidence. Empirical scientific statements are not theoretically certain. They may, of course, be certain enough for all practical purposes. They are reasonable expectations of what will happen, but reasonable expectation is a very different thing from the certainty of mathematical insight.

Now Kant maintained that, while such empirical judgments are not certain, they all imply the certainty of a number of general principles on which they depend.

These general principles are the synthetic a priori judgments with which he is especially concerned. When we apply the principles of trigonometry to an engineering problem, we know that our measurements are only approximate, and that the result also will only be approximate; but the possibility of arriving at such approximate results depends on the absolute truth of the trigonometrical principles, and on the assumption that they express not simply the agreement or disagreement of ideas, but hold of the real. When we apply the rules of arithmetic to counting objects, there may be a certain arbitrariness in deciding on our unit. There is no such arbitrariness in the rule. All scientific judgments of causation are only approximately certain, but they all imply the certainty of the principle of causation, and are based on the assumption that such a principle is of universal application. This and the other principles assumed in our empirical judgments are, then, the synthetic judgments with which Kant is concerned. Now, it is of the nature of our empirical knowledge that it is fragmentary and not uniform, that we are concerned with an indefinite number of things whose connections we do not wholly understand, and which we cannot therefore anticipate. Yet we assume that all these objects will obey the rules of arithmetic and geometry, and will all be subject in their changes to the principle of causation. On such assumptions all the sciences of applied mathematics depend. How are they justifiable? That is Kant's question.

Kant, when he considers mathematics, is concerned with the assumptions of applied mathematics, of those sciences which, though mathematical, make statements about existing objects, and in which the old distinction

between understanding and perception which was based on the difference in the objects of these two faculties breaks down. The sciences which Kant is investigating imply that principles which are clearly not derived from mere observation are yet the basis on which we order and arrange what we observe. Now, if we held that the objects of mathematics were independent entities quite separate from the things we perceive, it would be impossible to explain how we might assume that the things we perceive would be subject to the rules of mathematics. If, on the other hand, we held that in mathematics we were simply concerned with the various objects of the senses, it would be impossible to explain how mathematics can have a generality and necessity which no statements can have which rest on observation of the various things we see. The existence of applied mathematics implies firstly that understanding and perception are distinct, and that neither of them can be reduced to the other, for that would mean that we should have to give up either the element of observation and experiment or the element of necessity and a priority, and secondly, that understanding and perception are combined, and must be combined for any advance in science.

Now, Kant finds his answer to the problem he has raised by concentrating his attention on the fact that, while understanding and perception are distinct, they are both present in all knowledge. His argument is that we are necessarily in a difficulty if we think of understanding and perception as having each its separate objects, and then try to explain their combination. If we begin with their combination, we may see that the reference of principles of thought to objects of sense is

not an accident, but that these principles of thought or of understanding, as Kant calls them, are only concerned with objects of sense, and have no other meaning. If we object, But how can principles of thought be universal if they are concerned with the many and varying objects of sense? Kant's answer is that they are not concerned directly with these objects, but with the conditions under which these objects can be understood. They are therefore not statements about objects, but statements of the conditions of possible experience. If we find out that all perceiving and thinking imply certain conditions, then we can affirm the validity of principles based upon these conditions, so long as we do not try to apply the principles beyond our perceiving.

We may put the point in another way by asking by what right the mind can prescribe to or anticipate experience. Kant's answer is just in so far as we can determine the conditions under which alone objects can be known. If that can be done, we can say, These principles will hold of objects in so far as they are known. In the preface to the second edition of the *Critique of Pure Reason* Kant reverts to the discoveries of Galileo and Torricelli, and points out that their success was due to their asking of nature the right question, and the right question was that which reason could understand. "When Galileo let balls of a particular weight, which he had determined himself, roll down an inclined plane, or Torricelli made the air carry a weight, which he had previously determined to be equal to that of a definite volume of water, a new light flashed on all students of nature. They comprehended that reason has insight into that only which she herself produces on her own plan, and that she must move forward with

the principles of her judgments, according to fixed law, and compel nature to answer her questions, but not let herself be led by nature, as it were in leading-strings. Otherwise accidental observations, made on no previously fixed plan, will never converge towards a necessary law, which is the only thing that reason seeks or requires. Reason, holding in one hand its principles, according to which alone concordant phenomena can be admitted as laws of nature, and in the other the experiment which it has devised according to those principles, must approach nature in order to be taught by it, but not in the character of a pupil who agrees to everything the master likes, but as an appointed judge, who compels the witnesses to answer the questions which he himself proposes."

Kant, here, is concerned with reason in its application to experience, and he makes it clear that there is much in all such inquiries which cannot be anticipated a priori. "Reason must approach nature in order to be taught by it." The answer to the questions and experiments cannot be known beforehand. The empirical element in science cannot be explained away. Reason dictates not the answer but the question, and so far the form of the answer. Reason, then, it is suggested, is concerned with the principles or conditions, according to which we can understand things. It is not a method of observing or analysing objects; rather it states the methods and principles according to which objects must be observed if they are to be understood. The principles are not statements about the nature of objects, but principles of the possibility of experience. This new attitude to reason Kant describes as the Copernican change in philosophy. It constitutes Kant's idealism. Its nature and importance we must examine in the next chapter.

CHAPTER III

KANT'S IDEALISM. TIME AND SPACE

THE great discovery which Kant considered he had made as to the nature of reason was that reason was not a method of observing objects as they really exist, but was concerned directly only with our ways of understanding objects. This discovery is the essence of Kant's idealism, and its main purport is expressed in the distinction Kant so often makes between things in themselves and phenomena. This distinction is used as the key to the solution of all his difficulties. But the doctrine it implies is very easy to misunderstand, partly because idealism is generally used in a very different sense from that in which Kant uses it, partly because Kant's statement of the distinction between things in themselves and phenomena depended on a view of knowledge which he was very much concerned to refute, but with which we are not now familiar. If we are to understand Kant's philosophy, we must know what he means by idealism, and wherein his idealism differs from that of his predecessors.

The word idealism is, naturally, contrasted with realism. It suggests an assertion that something is not real, but only an idea. If we know it to be combined with a distinction between things in themselves, and phenomena, or appearances, it seems to suggest that the objects of knowledge are somehow illusions, or only

appearances in the mind, as contrasted with real things. Something like this had been held by Kant's predecessors. For the fundamental principle of the idealism on which most of Kant's predecessors had been agreed, and which is sometimes called Cartesian, and sometimes subjective idealism, is that the mind somehow knows itself and its own actions and states, with more directness and certainty than it knows external objects. The doctrine is commonly based upon a confused view of sense perception.

Sense perception is obviously possible only through processes in the sensory organs, and objects were thought of as producing impressions through the sensory organs in the brain, and the mind as then becoming aware of them in the brain. Hence, when Locke says that the mind only knows its own ideas, he tends to mean (though the facts are sometimes too much for him and he is nobly inconsistent) that the mind only knows objects inside the brain. The main objection to this doctrine, apart from the fact that it is based on a confusion, is that it makes it quite inexplicable how the notion of an outside world ever arises. For if we know, and must eternally know, only ideas inside our head, why should we ever imagine that there an outside world exists. Yet if nothing *outside* us were observed —if we knew of no process which went on between outside objects and the brain, the doctrine would have no basis on which to rest. There cannot be any meaning in saying something is "only an idea," if we do not know what is real in the sense of its having an existence independent of our minds.

Locke supposed that, although we knew only ideas, we could somehow refer from our ideas to an outside

world. For he thought that truth was concerned with the agreement of our ideas with reality. This form of the doctrine, the commonest, is sometimes called Representationism. For it thinks of the mind as concerned with representations, or pictures, or images which it may compare with the real objects. Its futility is obvious enough. We can only compare a picture with the thing it represents, if we can know both. If we can only know ideas, we can never know that they are only ideas, and can never compare them with anything else.

This difficulty was seen by Berkeley, the most consistent of subjective idealists, and led him to deny the existence of outside objects, and hold that existence or reality meant being perceived and nothing more. But if we take Berkeley's position, it becomes very difficult to say what we mean by judgments being true. If things only exist as we think of them, or perceive them, or rather if they are only our thinking of or perceiving them, the question of the truth or falsity of our statements about them cannot arise.

This idealism Kant is careful to refute, and he points out that there is no evidence for its fundamental proposition that we know our mind more directly than we know objects. We are only conscious of ourselves in knowing something not ourselves. We do not invent the notion of externality or outsideness in space from an experience in which it originally has no part. Externality is implied in our most simple experience. We begin with consciousness of outside things, and only become conscious of our own mental states or processes later. But it is important to observe that the truth or falsity of subjective idealism has no bearing whatsoever on the question with which Kant was con-

cerned. If I ask how I can lay down rules about what I have not yet experienced, I am not in the least helped by being told that I only experience what is in my mind. For the question will equally arise, How do I know what is going to be in my mind? The question idealism ordinarily discusses, as to whether the objects of our awareness are in our mind or outside, are in their nature mental and dependent on the mind or not, is entirely and absolutely irrelevant to Kant's purposes.

But it is a fact, and one that has got to be explained, that in judgment we go beyond what is present to our minds, and that, in so anticipating what we shall experience, we assume that certain principles hold of all that has been or may be present. With that difficulty idealism, as ordinarily understood, has nothing to do. Representationism tried to give some account of this going beyond what is present to our minds by suggesting that truth is a reference from ideas to reality; but, as we saw, if we know only ideas, such a reference is impossible. The doctrines opposed to representationism, that only ideas exist, or that we directly know real objects, allow the existence of nothing contrasted with what we are apprehending to which a reference in judgment can be made. No one who is satisfied with any of these positions can have seen Kant's problem.

If Kant, then, is not a subjective idealist, what does he mean by saying, as he constantly does, that we only know phenomena, and why should that limitation of knowledge help him in any of his difficulties? He means, in the first place, that all knowledge depends upon perception. The first paragraph of the first part

of the *Critique of Pure Reason* makes that clear. "Whatever the process and the means may be by which knowledge reaches its objects, there is one that reaches them directly and forms the ultimate material of all thought, viz. perception. This is possible only when the object is given, and the object can be given only (to human beings, at least) through a certain affection of the mind."

Now, although we perceive an objective reality, sense perception obviously gives a very imperfect knowledge of objects. We see only some sides and aspects of things, and not others. What we see depends on changes in our position. Further, we know that what we see is only a small part of the nature of anything. We think of reality as an interconnected system, but we only perceive a very small part of it, and what we perceive depends upon the particular time and the particular part of space in which we live. In our experience we are never really content simply with what we perceive; we perceive much too little for that. We are always inferring from what we see to something beyond it. What is that something beyond, which, as we have seen, is implied in all judgment? We might hold that it was the things as they really are as distinguished from things as they appear, or phenomena, and that, when we turned from perception to thought, we turned from illusion to reality. Kant denied this. He held that, if you examine a scientific judgment about anything you perceive, such as that yellow thing is gold, you will find that, if you know what the judgment means, you will be able to say: Then, under such-and-such conditions—if you weigh it, for example—you will have such-and-such a perception. The appeal

is not from what you perceive to what you think, but from what you perceive now to what you will perceive under such-and-such conditions. Such a reference, indeed, implies thought and what is ordinarily called a concept; but our knowledge of concepts used in science always means that, if we know what is meant, *e.g.* by calling anything gold, we know how it will behave under such-and-such conditions. The concept, in Kant's words, is a function of unity in our representations. The task of thought, then, is not to turn the mind away from what we perceive, but to help us to transcend some of the limitations of our perceptions, or, to speak more accurately, to set somewhat further back the limits of our perception; for thought never entirely transcends these limits. Our knowledge is always conditioned by the fact that we are finite minds living in a particular place and at a particular time; but thought can extend the range of our perception in space and in time.

The limitations of our perception have, for Kant, a double aspect, which determines his division of the first part of the *Critique* into two parts—the *Æsthetic* and the *Analytic*. In the first place, our direct knowledge of space at any one time is always knowledge only of a part of space; our direct knowledge of time, whether in present consciousness or in memory of our own experience, is knowledge of only a part of time; and the things in the space we directly perceive, or in the time we experience, are what they are by their relation to space outside the space we see, and time beyond the time we experience, and that limited space and time we treat, therefore, as parts of one all-embracing space and one all-embracing time, and in the conception of an

indefinitely extended space and time we can think of the space in which all things exist, and the time in which all things occur, of which we only see and experience a small part. The science of astronomy obviously talks of space and time far beyond anything we could ever perceive, but we go beyond such direct perception in such simple expressions as "forty miles from here" or "three days hence." And, when Kant says that space and time are only phenomenal, he does not mean that they are mental, but that we only know them through perception, and that we get at absolute space and time not by going from what we perceive to what we think, but by thinking of what we perceive indefinitely extended. All definite statements about space must come back in the end to "so far from *here*," all about time to "so long from *now*," and the fact that all our knowledge of space and time is got by adding to or extending in thought the space and time we directly perceive does, according to Kant, solve some obstinate puzzles about the nature of space and time.

In the second place, if we consider our knowledge of objects, we realise that, as we said, at any one moment we only perceive them in part or from one position. What we directly perceive of them is fragmentary and discontinuous, one aspect seen now, and another aspect seen at another time. But we do not think of the things as existing in that discontinuous way; we think of them as having a nature of their own. That does not contradict, but is something very much more than, what we perceive, and our knowledge of any object is got by piecing together the aspects we directly perceive; but that piecing together, or synthesis, is not haphazard. It is governed by rules—rules partly derived

from the nature of the particular thing we are concerned with, and partly more general rules, which come from the relation of this work of piecing together to the framework of space and time by help of which it is done.

Kant's conception of knowledge, then, is something like this. Each of us is in direct contact with reality, but we perceive directly only a small part of it, and, as our consciousness moves on in time, and as we change our position in space, we are directly conscious of different small portions of reality. A part of the whole is illumined by direct perception, but the whole stretches beyond that indefinitely in space and time. In the part we directly perceive there is a temporal order and a spatial order. Things are given to us arranged in space and ordered in time, and these arrangements or orders in the space and time that is directly given to us in perception have certain rules, and we think of these principles of arrangement as extending indefinitely beyond the space and time given to us in perception. When we make judgments about reality beyond our perception, we think of things as so arranged in the space and time beyond our perception as we should see them arranged were the range of our perception sufficiently wide. Further, it is most important to remember that we do not remain in one place and at one time and make guesses of what may happen in the darkness beyond. Though our perception at any one moment is limited, we can connect what we see at one time with what we see at another. We can, by means of language and writing, use the perception of others to fill out our experience, until gradually our scientific judgments, our knowledge of what we should perceive

under all sorts of possible experience, seems to bulk much more largely than could our individual perceptions. But we are still, Kant would say, getting at our knowledge of what is beyond by piecing together what we and other people have perceived, and the whole is always much more than that.

What, then, is meant by the contention that we can know things in themselves which Kant is earnest to refute? It might mean that we do in perception attain to a complete knowledge, but that would be obviously untrue. As Kant understood the claim, it meant rather something like this: In thought we are obviously not limited by our perception. We are always assuming certain principles, such as the laws of space or the principle of causation, to hold of all reality, both what we do and what we do not directly perceive. May we not say, then, that these principles hold of all reality, and argue from that fact to what the nature of the whole must be? If everything that we know is caused, *e.g.*, may we not apply the principle of causation to all reality and say that it must have a cause?

When we come to consider the *Dialectic*, the second main division of the first *Critique*, we shall notice Kant's detailed analysis of these arguments, and how he points out that you can in this way get contradictory results. In the meantime it must be observed that in these arguments we start from principles applied to what we perceive and expressing connections between the different things we perceive, and then apply them beyond everything we do or could perceive. That means that we imagine that we can take these principles out of relation not only to this or that detail of perception, but out of relation to any perception at all,

and thus apprehend reality by thought independently of perception.

Kant's answer is that thought cannot directly apprehend the nature of the whole, and these universal principles, such as the principle of causation, are only principles by which we connect one perception with another to amend the discontinuous and fragmentary nature of our perception; they are rules for the synthesis of what we perceive. By so synthesising our perceptions we come to a less imperfect knowledge of the whole, but apart from perceptions the principles have no meaning at all.

Kant's idealism, *i.e.* his insistence that we know only phenomena, not things in themselves, is relevant to his problem, because it implies the denial of the view that thought has objects apprehended independently of perception, and because it insists that we can only know directly what we perceive, or things as they appear to us, that in our process from perception to knowledge we start with what is present to our perception and end with what is or with what might be present to our perception, and that this process is possible by reason of our continued consciousness in time. The process, Kant holds, is governed by certain principles. These depend upon the part played by space and time in all our perception, and the manner in which we employ space and time in piecing together our discontinuous perceptions.

Now, obviously it is quite possible to hold this position without having thought out what is implied in being present to the mind in perception. This is what Kant did. He describes perception in different and inconsistent ways. The reason for this inconsistency is that

Kant is not concerned with the nature of perception, but with the relation of what is immediately perceived to what is not but may be immediately perceived, and he therefore never worked out any consistent account of perception. He sometimes talks of perception reaching objects directly, and refutes the view that we perceive only what is in our mind. (This, indeed, is implied in his distinction of space and time as forms of *external* and *internal* sense respectively.) But usually he takes the ordinary idealist view that we do not perceive things, but affections produced in us by things. Owing to this inconsistency Kant constantly seems to be stating very much more than he has any right to. This is especially true in all that he says about knowledge being confined to phenomena and not extending to things in themselves. When he talks of our knowing only phenomena, he sometimes seems to mean that we know objects, things in themselves, only in part, in so far as they appear to us. That would make the distinction between the phenomenon and the thing in itself a distinction between the same thing imperfectly and perfectly understood. He sometimes, and this is his more usual view, seems to mean that we are aware of appearances, entities separate and distinguishable from the objects which produce them in our minds. But if we work out in any of Kant's arguments the point of his appeal to the fact that knowledge is only of phenomena, we shall find that in every case the difference between a subjective idealist and a realist view of perception, of what "being present to the mind" means, is irrelevant, and that his argument holds on either theory.

We must now turn to Kant's account of space and

time which is given in the *Æsthetic*, the first part of the *Critique*. He begins by showing the impossibility of the two views of the nature of space and time which then held the field, the views of Newton and Leibniz. Newton had thought of space and time as realities, things in themselves existing along with other things. But obviously we cannot think of space as a separate thing existing by itself; for space without things would have no determination or possibility of determination, and would be to us just nothing, whereas, as it is, it is something to us. The same holds of time. The Newtonian doctrine, Kant says, "forces us to assume two eternal, infinite, and self-subsisting non-realities, which are there, without any reality in them, only that they may comprehend all reality." Just because things are in space and time, space and time are not themselves things. But if this makes us say that space and time are *only* relations between or qualities of things, we find ourselves in difficulties as obvious. We do not come to apprehend space and time by comparing things and seeing that they have a common quality of being "spatial" or "temporal," as we come to apprehend redness, *e.g.*, by seeing red things. The perception of space and time is implied in each and every perception of things. We cannot, therefore, derive them from our study of things; we must begin with them. Further, Kant notices, as against Leibniz, that space and time are not ordinary concepts because they have no instances. Different men are instances of man, but different spaces or times are only parts or determinations of the one space and the one time. As against the view, then, that would make space and time only relations, derived from our comparison of things

which are not temporal or spatial, Kant insists that space and time are a priori. We cannot see things without seeing them outside one another—*i.e.* in space—or experience succession or change without experiencing it in time. Space and time, then, have a certain independence of things in space and time. The qualitative differences of things in space or events in time do not affect the nature of space and time, and we can and do study and discuss spatial and temporal relations quite independently of such differences.

Space and time, then, can be abstracted from things in space and time. Yet, on the other hand, we cannot think that space and time exist independently of things. They do not exist in abstraction; for, though the specific differences of things in space and time are irrelevant to the nature of space and time, if there were no things, or if there were no differences, there could be no space and time as we know them. "The empirical perception," says Kant, "is not compounded of phenomena and space, of the sensation and the empty perception." Space and time, therefore, Kant says, are not things in themselves.

What, then, are they? Kant's answer is that they are forms of our perception. Space is the form of external perception, and time is the form of internal perception, and Kant holds that by this answer we can understand both how our knowledge of space and time may be a priori, how spatial and temporal distinctions may be abstracted from the differences of things, and how we may avoid the difficulties consequent on regarding time and space as independent things.

What, then, does Kant mean by *form*? He seems to mean two things, which he does not clearly distinguish.

The first meaning is best described in his own words: "In the phenomenon I call what corresponds to the sensation the matter of the phenomenon, and that which causes that the manifold of the phenomenon is perceived as arranged in specific relations I call the form of the phenomenon." We are here face to face with the ultimate difference of form and matter, or order and that which is ordered. When Kant calls time and space the form of our perception he is simply calling attention to the fact that in all that we perceive we find this distinction. It is something found, given, not made by us. By the word "form" Kant does not mean anything specially subjective as contrasted with matter or content, for he carefully distinguishes between space and time, and such qualities as colour, which get their nature in part, he thinks, from the specific nature of the sense organ. Compared with such qualities space and time are objective. The phrase "forms of our perception," then, does not really explain anything about space and time; it only emphasises the fact that the distinction between space and time and objects in them is found in what we perceive, and that there is no meaning in discussing either side of the distinction as though it were quite independent of what we perceive.

But form has also another meaning which justifies Kant in calling space and time *only* forms of our perception, and hence subjective. For, while these forms are *found* in what we perceive, the distinctive part which they play in our knowledge is due to the fact that we use space and time as a framework by which to connect our scattered experiences. We come to think of the space and time we perceive as parts of an absolute space and an absolute time. We perceive parts

of space and time, but absolute space and absolute time we do not perceive. They are the form we perceive imagined indefinitely extended. We order the particular parts of space and time which we do perceive in reference to absolute space and time. Yet absolute space and time are only known through the finite parts of space and time which we actually experience. Hence absolute space and time are not perceived realities or perceived orders, but ways in which we organise and arrange what we perceive. Now, the qualities of space and time which are hard to think of as the qualities of a thing that exists, *i.e.* their infinite divisibility and infinite extension, are qualities of absolute space and time. When we say that space is infinitely divisible, we do not mean that any existing thing is made up of an infinite number of parts. The divisibility of space and the divisibility of matter are quite different. An inch as a spatial determination is infinitely divisible, but the divisibility of the actual stuff which any inch may measure is a matter of empirical investigation, and ought to admit of a definite answer. That means that, while we use determinations of space which we consider infinitely divisible and infinitely extensible to measure things in space, we do not consider that these determinations, fractions, or multiples of inches or centimetres, have anything to do with the constitution of the thing they measure. It was not put together in fractions of inches. Thus we must distinguish between space as the form of what we perceive, the next-each-otherness of things, and the use we make of that form to construct by means of measurement order in all different perception. The first is obviously the form only of what we perceive, and gives rise to no tran-

scendental questions. But the second, infinite space, though it seems to transcend our perception, has still only meaning in reference to perception, is only a way of ordering our perceptions. The same holds good of time.

We can see now what Kant means by saying that time and space are empirically real and transcendentally ideal. Kant does not maintain that space and time are illusions. They are a constant element of what is given us in perception. It is only when we try and go beyond our perceptions, and take space and time as things existing independently of what we perceive, thus trying to transcend the limits of possible perception, that we fall into illusion. Space and time have meaning only as elements in what we perceive, or in connecting what we perceive now with what we may perceive.

CHAPTER IV

THE CATEGORIES AND THE PRINCIPLES OF PURE UNDERSTANDING

KANT makes the distinction between perception and understanding depend upon the distinction between the receptivity and the spontaneity of the mind. In the *Æsthetic* he has been concerned with time and space as elements in what seems to be given to the mind. Before we begin to ask the questions of science, before we analyse, describe, or classify, before we have to think, we perceive. Time and space are not got at by thinking or generalisation. For before we can say anything about any part of our experience, it is *given* us in a certain spatial and temporal order. If we open our eyes at any moment, we are, without any conscious effort of thought on our part, confronted with an elaborate content. It seems simple to distinguish this receptive attitude of the mind in perception from its activity in thinking.

The distinction is not really so simple as it appears. For we all know that what we perceive depends, at least to some extent, on the mind's activity. We are familiar with the reflection that men see what they want to see or what they are looking for. This is clearly shown in the case of hearing by the difference in what we hear when we are listening to a language we understand and when we are listening to an unfamiliar

language, or in the common experience when, after failing to hear what someone has said, we think what it must have been, and then seem to recall the sound, not as we heard it, but as we should have heard it if we had heard it rightly. Anyone who reflects on the process of fast reading will realise that we do not perceive or notice all the letters on a page; we fill in from our imagination, as we discover when we read words that are not on the page. It is a very hard thing, giving up all interpretation and inference, to describe faithfully just what is there to see.

Passive perception, then, does not exist, and our thought affects our perception. Yet, at the same time, the distinction between thought and perception, although not simple, is real. For although our previous thought affects our perception and we see things already classified, see books, and tables, and chairs, not merely coloured surfaces, yet we can distinguish between simple immediate perception and the process of thought which begins when we ask, What is that? *i.e.* when we begin to make judgments.

The characteristic of thought, according to Kant, is synthesis, or putting together, and all synthesis is the work of the mind. When we begin to describe and classify the contents of our perception, we pick out separate qualities from the continuous whole we perceive, and group them together. This grouping is, of course, determined by the likenesses and differences which we perceive everywhere, but we do not, in judging, confine ourselves to noticing likeness and difference. For any content of our perception has some point of resemblance, and some of difference with any other. We are concerned with likenesses that go with or are the

signs of other likenesses. On the basis of perceived likeness we erect the notion of things and qualities of a certain kind. In doing this we go beyond what we see, and unite and arrange the contents of our perception through concepts. That is what we are doing when we say that is a so-and-so. For example, if I say that rock is like a dog, I am simply expressing a likeness I perceive. I do not imply that the rock is therefore alive or will bark; I am not going beyond how the rock looks; but if I say that object is a dog, I assert that all that is implied in being a dog will hold of that object, *i.e.* that it will have a certain appearance and behaviour, which is known. I can anticipate, therefore, how it will behave, look, and sound under certain circumstances. All these phenomena, the appearance, the barking, and running, though I may perceive them at different times and places, are grouped together in the judgment, "That is a dog." This is what Kant means by saying, "Concepts depend on functions. By function I mean the unity of the act of arranging different representations under one common representation." Concepts, therefore, always refer to perception, and it is by means of concepts that we are enabled to introduce such order into what we perceive, that we can anticipate from what we perceive what we shall perceive. "Perceptions without concepts are blind." Without concepts what we perceive would not lead us in any way beyond what is immediately given. "Thoughts without contents are empty." Concepts are nothing, and have no meaning apart from the contents of perception which they unify.

Most of these concepts are what is called empirical. We get at them by observing likenesses and differences in what we perceive, and observing which are significant

and important, and which are what we call accidental. Science, in its discovery of laws, is only carrying further this process which is implied in all simple judgments. By observing likenesses and differences, their uniformities and variations, and discovering those which are a key to the rest, we improve our concepts, and thereby have more knowledge of what we call natural laws, and can more and more anticipate experience. With these empirical concepts and their development Kant is not concerned. But there are certain concepts of which Hume had observed that they are not obtained in the ordinary way from an examination of the contents of experience. The two with which he chiefly concerned himself were substance and cause. These concepts seem to play an especially important part in the ordering and arranging of the concepts of experience. For the work of science, in moving from a simple observation of likenesses and differences to a knowledge of empirical laws, depends upon certain assumptions or principles, like the principle of causation or the principle of the conservation of energy. These principles imply concepts not derived, like the others, from generalisation from experience; they are the synthetic a priori judgments which, as we have seen, constituted a special problem for Kant.

Kant is first concerned to ask where these a priori concepts come from, and how many of them there are. This inquiry he calls the metaphysical deduction of the categories. Having answered that question, he then goes on to ask by what right we assume these principles in our dealing with experience. This, the most important and difficult section of the *Critique*, he calls the transcendental deduction of the categories.

Most concepts, as we saw, are empirical. We take certain likenesses and differences we observe as the mark of a real unity in the things. The different *natures* of different things we do not fully know, but we distinguish them by the different uniformities we observe, and in order to explain our experience we assume the unity underlying these perceived likenesses. Iron, dog, fire, are names for the natures of things which we see manifested in our experience. The concept, then, is got from what we perceive, though it stands for something more than we perceive. How, then, can there be any concepts which are not got from the empirical differences of things we perceive? Let us take such a concept as substance, and see whether we can discover where it comes from. Locke had been puzzled by discovering that he could not, in any object, find anything which was its substantiality. Calling anything a substance is not like saying that it is hard, or green, or heavy; we are not concerned with specific differences in things, but we are not therefore saying what is meaningless. There is something, namely substance, which we can distinguish from the hardness, or colour, or weight that we perceive. That something we do not perceive; we assume it whenever we talk of a thing being hard, and green, and heavy. A thing's substantiality is just the unity of its perceivable qualities. But such a unity is implied in the concept of any object. Substance, then, is a name for one of the general principles implied in our assuming that what we perceive are real objects.

Kant generalises the result of this inquiry into particular concepts of this kind. He holds that a priori concepts or categories (*i.e.* the concepts which we do not get from empirical differences of things) stand for

principles implied in thinking of things as objects or in judging. If we want, therefore, to find out the number of the categories, we must ask how many different kinds of unity are implied in judgment, or what are the conditions of judging any object. Kant does not here help, but rather misleads us in this inquiry. For he unfortunately thought that the different kinds of judgment could be discovered without further ado by taking the list given in formal logic. He therefore first makes a list of categories, based on the logical forms of judgment, and then tries to show the connection between these categories and the principles which were, as he had discovered, assumed in the mathematical sciences.

The actual movement of his thought is, I think, different. He asks if there are any general conditions implied in all judgment. His answer is that all judgments, all statements, that is, which claim to be true, imply determination of time and space. From that determination certain principles can be deduced. If time and space are implied in all judging, then these principles will equally be implied, and will hold of all things which can be objects for us.

It will be easier to understand Kant's arguments if we invert the order of the *Critique* and begin with examining the nature of the principles of the understanding or of one of them.

The categories which are of importance in Kant's argument are quantity, quality, substance, causation, and reciprocity, and necessity, possibility, and actuality. The last three are less important than the others, and we shall not deal with them.

To the first five of these categories correspond the following principles:

(1) Quantity. "All phenomena are, with reference to their perception, extensive quantities."

(2) Quality. "In all phenomena the real, which is the object of a sensation, has intensive quantity, that is, a degree."

The last three are classed under a general heading of *Analogies of Experience*, whose principle is: "Experience is possible only through the representation of a necessary connection of perceptions." They are

(3) The *principle of the permanence of substance.* "In all changes of phenomena the substance is permanent, and its quantum is neither increased nor diminished in nature."

(4) *Principle of the succession of time, according to the Law of Causality.* "All changes take place according to the law of connection between cause and effect."

(5) *Principle of co-existence, according to the law of reciprocity or community.* "All substances, so far as they can be perceived as co-existent in space, are always affecting each other reciprocally."

These principles, Kant points out, are assumed in the sciences of applied mathematics. The application of geometry to the world we experience assumes that all phenomena are extensive quantities; physics assumes that quantitative expression can be given to the qualities of objects other than their size, their weight, *e.g.*, and all scientific determination of change assumes the three principles which Kant calls analogies of experience: the permanence or conservation of amount in changes, the necessary connection of things in time, and the reciprocal interdependence of things which exist at the same time. These principles are not proved by science;

their validity is assumed in all scientific investigation. On what, then, does it rest?

We shall follow Kant's argument more easily if we take his account of one of these principles—the principle of causation. For what is said of that will hold, with necessary changes, of the others, and, as we have noticed, it was Hume's criticism of causation which first led Kant to formulate the critical problem. Hume had pointed out that we had never such insight into causal connection as to be able, from mere inspection of a cause to foretell the effect without any reference to experience. He declared, on the contrary, that there was no difference between observed succession and causation so far as concerned the objects observed. In each case we see first one thing and then another. The difference, then, between mere succession and causal connection can only be in us, in the way we come to feel about certain successions we observe. In technical language, the necessity of causation is subjective.

How does Kant answer this position? He begins, as is usual with him, by taking the problem a little further back. Causation is a connection we predicate between what we see at one time, and what we see at another. Now if we take into account only the fact that we see one thing at one time and another thing at another, there is no difference between what we see when we successively see two things which we judge to co-exist, and when we see two things one of which we judge to have succeeded the other in time. Hume, therefore, proved too much. His argument would show that we have no grounds for distinguishing between apprehension of succession and succession in apprehending,

but such a distinction is the basis of our apprehension and understanding of change or movement. If, then, we examine how we distinguish between apprehension of succession and succession in apprehending, we may see on what the principle of causation is based.

An instance will help to make this point clear. Suppose that I am sitting in a room, and look first at the door and then turn round and look at the window. There are two successive acts of apprehending; the content of the first is the door, of the second, the window, but the succession, I say, is in my apprehending. The door and the window have co-existed all the time. Suppose, again, that I look out of the window and see a cab in front of the house opposite, come back into the room, and then look out again and see the cab in front of a house further down. Here, again, are two successive acts of apprehending, the content of the first, houses with cab in front of one house, of the second houses with cab in front of another. This time I say the houses have gone on co-existing, but the cab has moved. The difference in what I see this time is due, not to me, but to the cab. The succession is in the thing apprehended. If we just think of the contents apprehended, we have first A, then B, and say A and B co-exist in the first instance, and have CD and CE, and say D and E have been successive in the other. Why in the second case do we not say when we look out of the window the second time: Here is another row of houses, which, though they look exactly the same as the ones I saw last time, have got the cab in a different place? That is the kind of thing one does say in a dream. Why would it be inadmissible in waking life?

Let us first ask how we ever come to make the dis-

tinction between change in the content of our perception, which is due to change in us, and change in the things we perceive. Look out of a window into a busy street. As we look certain things remain the same, the houses opposite, the lamp-posts, and so on, but other things change. The permanence of part of the contents guarantees us that the change we perceive is not due to us: if it were, these would change also. Therefore it must be in certain of the things. Change is perceived against a background that is permanent and does not change. But any such particular perception is, of course, very limited. We do not see all the world at once, and we only come to know a larger extent of reality by means of memory, which enables us to put together what we see at one time with what we see at another. We have got to try and understand how it is that we make this distinction, which is clear to us in small isolated bits of experience, hold of all experience. Now if reality did not change, and we were conscious of our own movements, we could go from one point to another of reality and back again, and could be aware that the changes in our perception were all due, not to change in reality, but to us—were *our* history. We should know that the different things we saw were co-existing all the time, and we should, in describing them, try to describe them, as in a map, as we should perceive them if we saw them all at once. The succession would be subjective, the co-existence objective. If we perceived nothing but change, we should be incapable of distinguishing between our changes and the change outside us, for all succession in our experiencing would be experience of what was successive, and there could be no distinction between psychology and science. Our ex-

perience of reality is not like either of these suppositions, but like both of them combined. Some succession of our experiencing is experience of the co-existing, some experience of succession.

Reality stretches out beyond us in space, some of it changing and some of it permanent; we cannot tell simply from the difference in what we perceive whether the difference comes from change in us or change in the thing. We can tell that only on the assumption that we are having fragmentary views of a whole that is continuous. The only continuity we know is the continuity of our own experience made possible by memory, and we try to interpret that experience in the light of the larger continuity of the world which our experience breaks up. As we go from one place to another, notice now this thing, now that, we can test interpretations made on this assumption. Wrong interpretations are those which make our experience inconsistent. If we thought that what happened at one time had no relation with what happened at another, that anything might happen any time, our experience and our own life would be the merest jumble. Our experience attains consistency only as we learn more and more to disentangle the differences in experience which come from our changes, from the changes and the variety which are part of the whole connected system of reality, of which we see now one fragment, then another. The distinction between succession in our apprehending and apprehension of succession, which is the basis of all experience of change, implies the recognition of change as not arbitrary but part of a connected system of reality. As Kant puts it in his formulation of the principle of the analogies of

experience, "Experience is only possible by means of the representation of a necessary connection of perceptions."

But if our perception of reality is fragmentary, how can we think of reality as other than fragmentary, how can we fill up the gaps? Only by thinking of the whole as a connected system in space and time. For it is the nature of space and time that they can be thought of independently of the specific nature of the things in space and time, and that the space and time we perceive in any one experience must be thought of as parts of an all-embracing space and an all-embracing time. We cannot follow the whole history of a change from A to B, we can only say that, if our experience is to have any consistency, we must think that the fact that we first saw A and then saw B implies in this case that the change from A to B is part of the continuous system of change in time, that it is determined in time. But to think of an event as determined *in* time is not to think of it as determined *by* time, for time in itself could not produce one thing more than another. It is to think of it as determined by the nature of what precedes it in time. We therefore conclude that like causes have like effects: for, if anything could cause anything, we should never know that change in what we observed was due to change in us—in the position of our bodies, *e.g.*—and the experience of objective change would be impossible.

The principle does not tell us of itself what causes what. That can only be discovered by empirical investigation. That is necessary because we do not, as we seem to have assumed above, simply see one thing becoming another. We see parts of all kinds of changes.

Hence succession may be objective but not causal. Science has, by observation and experiment, to disentangle and isolate different changes, but it could not do this without assuming the principle of causality.

Causation, then, and the other assumptions of the physical sciences, are shown by Kant to be "grounds of the possibility of experience." We cannot deny them without denying elementary distinctions in our experience, without which life would be a chaos, and which are assumed and justified every moment. While Kant thus demonstrates the validity of such principles, he is also insistent on the limitations of their application. They are principles which give consistency to experience, but must not be applied save in reference to what we experience. They apply, in his words, "only to phenomena." The purport of this limitation can, again, be most easily seen by examining the principle of causality. By means of that principle we connect one event with another, but the reality is not two different but connected events, but a continuous process. The continuous process escapes us, because our perception of it is fragmentary and discontinuous. Inasmuch as a judgment of causal connection asserts that the events we separately notice are connected, it is true, but it is false if taken to imply that reality consists of a series of discontinuous events or stages which are yet connected. Such an assumption would mean, in Kant's words, that causation is applied not to phenomena (things as they appear to us), but to things in themselves (things considered apart from the manner in which they appear to us). If we realise its falsehood, we can, he thinks, evade the contradictions which he examines in the *Dialectic*.

CHAPTER V

THE ANTINOMIES AND CRITICISM OF THE PROOFS OF THE EXISTENCE OF GOD

So far we have been considering the positive side of Kant's argument, his attempt to confirm the validity of the principles of science. We must now notice the negative side, his attempt to limit the application of these principles, and his denial of the possibility of knowledge in certain spheres.

We saw that Kant in his *Prolegomena* summed up the argument of the three chief divisions of the *Critique* as an answer to the questions: How is mathematics possible? How is pure science of nature possible? and, How is metaphysics possible? He qualified the last question by adding "as a natural disposition of the mind." The argument of the *Dialectic* is that metaphysics, in the sense of inquiry into objects which transcend the bounds of experience, is not possible as a science, but that metaphysical questions arise naturally from the nature of human reason. They cannot be answered. All we can do is to see why we cannot answer them.

Kant thought of knowledge as a process of extending the bounds of perception, of piecing together the fragmentary glimpses we get of the world, stretching them out in spatial and temporal determinations that go beyond what we have actually experienced, connecting

and linking up the events which we perceive discontinuously. As science extends, the range of our knowledge widens, but the process of extension never reaches its completion. There are always more facts to be discovered and explained. Science, therefore, can never rest content with its achievements, but must always demand that the investigation of conditions should be pushed further back and on. From this sense of the incompleteness of all actual knowledge, and of all there is that might be but is not known, arises what Kant calls an ideal of reason, a demand that, in all investigation into the conditioned, we should go on till we come to the totality of conditions. This ideal he holds to be serviceable and necessary. It has, however, a natural tendency to pass from an ideal to an idea, and in so doing it gives rise to the contradictions with which the *Dialectic* is concerned. If all our investigation is governed by the thought that it must go on until it reaches completion, we naturally speculate on the fulfilment of that ideal, and try to form an idea of that totality of conditions, of how we should think the world if we knew it in its completeness. Herein we hypostatize the ideal or make it an idea, and we fall into contradiction; for we cannot really know the whole without knowing all its parts. If we give up the slow and never-completed process of knowing one part after another, and try to jump to the idea of the whole, we reach quite contrary results, as we apply to the conception of the whole one or other of two assumptions implied in our investigation of the parts.

Kant sharply distinguishes between the principles of the pure understanding and the ideas of reason. The former are implied in all our knowledge, and the fact

that experience is not chaotic confirms them at every moment. The second are ideals which guide knowledge, but are never realised. He calls them ideas of *reason*, because it is the special task of reason to lay down rules for the proper and complete working of the understanding. This task, he thinks, is exemplified in the logical nature of the syllogism which brings into unity the judgments of the understanding. As he used the forms of judgment as a guiding thread to discover a complete list of categories of the understanding, so he uses the forms of syllogism to discover a complete list of the ideas of reason. In both cases Kant's reference to logical forms is far-fetched. Actually the list in the *Dialectic* seems to be influenced by a number of considerations not always consistent.

There are three main divisions of the *Dialectic*. (The first Kant calls the paralogisms of rational psychology.) All knowing and experience imply the unity of the self which knows. In actual experience that unity is qualified by the nature of what it unites, but we may try to think of it apart from and independent of this. This leads to an attempt to know the self by asking what must be its nature if it has the unity implied in knowing, and to argue that the soul is a substance and simple, not affected by the changes in the matter which it knows and therefore immortal.

The second division arises from the fact that in knowledge we are concerned with series—a series of addings together and a series of divisions, as of parts of space and time; a series of things arising one from the other, as in causation; and a series of things in dependence one upon the other. The *ideas* of reason come from the thought of these series completed, and produce what

Kant calls antinomies. For if we start with the thought that what we are trying to apprehend must be a whole, we get one series of results; if with the thought that we can only apprehend the whole by going from condition to condition indefinitely, we get another. Kant distinguishes four antinomies, each with thesis and antithesis. The thesis of the first is, "The world has a beginning in time, and is limited also in regard to space"; the antithesis, "The world has no beginning and no limits in space, but is infinite, in respect both to time and space." The thesis of the second is, "Every compound substance in the world consists of simple parts, and nothing exists anywhere but the simple or what is composed of it"; the antithesis is the contrary of this. The thesis of the third is, "Causality, according to the laws of nature, is not the only causality from which all the phenomena of the world can be deduced. In order to account for these phenomena it is necessary also to admit another causality, that of freedom"; the antithesis, "There is no freedom, but everything in the world takes place entirely according to the laws of nature." The thesis of the fourth is, "There exists an absolutely necessary Being belonging to the world, either as a part or as a cause of it"; the antithesis is a denial of this.

The problems of the third division of the *Dialectic* arises from an attempt to think of a whole which shall include both the known world and the mind that knows. This attempt, which Kant calls the ideal of pure reason, leads to proofs of the existence of God.

As the *Dialectic* proceeds, it becomes clear that Kant has another list to hand. He enumerates, as the three great objects of metaphysical inquiry, God, Freedom,

and immortality, and in his discussion of the ideas of reason he treats them principally as attempts to give definite and dogmatic answers to the problems suggested by these three topics.

Immortality is the subject of what Kant calls the paralogisms of rational psychology. He argues that all attempts to prove the immortality of the soul by a priori arguments involve an argument of this kind: they begin by noting that death is always dissolution of some kind, that, therefore, what is not made up of parts and cannot be dissolved, cannot die. Then they urge that the soul is not made up of parts, and therefore cannot die. The fallacy in this argument is that it treats the unity of the self as though it were an object of knowledge. We can show that knowledge is only possible if the self has a unity other than that of a spatial whole, but we cannot therefore argue that it must be exactly like a spatial whole, in the sense that death in it can only be brought about by dissolution, but unlike a spatial whole in that in it there is nothing to be dissolved. The real nature of the unity of the self, Kant argues, cannot be known. All we can do is to reject a priori arguments either for or against its immortality.

Freedom is treated in the third antinomy of pure reason, and to that Kant devotes most attention, but others of the antinomies are concerned with the difficulties arising from the application of spatial and temporal determinations to reality as a whole, and to the category of necessity. Kant makes a distinction between the first two and the second two antinomies. It is the first two that express the inadequacy of temporal or spatial *determination* to reality as a whole. All such

determination implies measurement, and measurement is always a relation of part to part. The antitheses of both antinomies express the inadequacy of any number to the expression of the nature of the whole, the thesis the inadequacy of regarding reality as an aggregate or addition of any kind. Each is strong in what it denies, and Kant's solution is that both thesis and antithesis are false, because you cannot apply spatial or temporal determination to the world as a whole.

In contrast the solution of the other antinomies is that both thesis and antithesis are true, and that is possible because they are concerned with different things. The third antinomy arises from the difficulty of applying the category of causation to the world as a whole. The assumption underlying the thesis is not, as is sometimes asserted, merely that the notion of infinity in itself implies a contradiction, but that a determinate result must have a determinate cause. If we think of what actually exists now as having been caused by what has preceded it, we must think of that which has had a determinate result being itself determinate. It is the familiar argument for a first cause. In causation we seem to be relating one event to another event, and are really only putting the question of origination further back. Yet, if we say that therefore we must suppose an absolute origination of change, a beginning of the series, we have to answer the question, How is it possible to think of the originating number of the series? For to think that something can arise from nothing is to contradict the principle of causation.

Kant's solution to this difficulty is important, for it had great influence upon his ethical theory. The category of causation applies only to phenomena. If

we think of things as phenomena we must recognise that they are subject to the principle of causation; if we think of them as things in themselves, the category of causation does not apply to them, and their action may be free. The same action may therefore on its phenomenal side be determined, and on its nominal side, as the action of a thing in itself, be free. This may seem to be solving one contradiction by propounding another, till we remember that in causation we do not explain the relation of cause to effect. The relation we discover is between one instance of cause and effect and another. Like causes have like effects. The principle applies, then, in so far as things are like one another. It applies to changes which are aggregates or complexes of simpler changes which are like other changes. If and in so far as there are things which are more than aggregates of their elements, and are therefore unique, there are things to whose changes no laws of cause and effect are adequate. The point may be illustrated by the way we think about character. If we think of a man's character as his characteristics, his being this or that *kind* of person, we must think of his action as so far determined, but that does not prevent us from thinking of his individuality as something more than any sum or combination of characteristics, as something essentially alive, which escapes all attempts to bind it by rules. It is the difference in Kant's words between man regarded "from the point of view of anthropology," and man regarded as a responsible moral being. We shall see in the next chapter that this distinction is the basis of Kant's moral theory. Here it must be noted that he does not claim that his solution of the third antinomy proves the fact of free-

dom. That, he held, no merely intellectual argument could prove. It only defends the possibility of freedom.

The third division of the *Dialectic* is an examination of the proofs of the existence of God. When we study Kant's account of them, we find we are concerned not, as elsewhere in the *Dialectic*, with a conflict springing from the nature of reason itself, but with the relation of thought and conduct. Kant distinguishes three proofs of the existence of God—the ontological, the cosmological, and the physico-theological—but he maintains that the last two really rest upon and imply the first. The first, the ontological proof, is the argument that the very conception of a perfect being implies existence. It is the only proof of moral importance, inasmuch as it attempts to argue a priori that a being of perfect morality must exist. Kant's answer to it is that, to argue that we could not conceive a perfect being unless we conceived that being's existence, is to suppose that to conceive of a thing, and to conceive of the same thing existing, is to conceive of different things. Existence, he says, adds nothing to the concept of an object. Kant's objection to the ontological proof has been criticised. But the proof either assumes that God is a being independent of and separate from the rest of reality, and then, as Kant says, we may conceive God as existing, but our conception not being necessitated, carries no necessity with it. (If I conceive a hundred dollars to be in my pocket, he says, I conceive them to be there; but that does not mean the dollars are there.) Or if we say that reality must be thought of as existing, the answer is, Yes, but must reality necessarily be thought of as morally perfect? It is this last assumption which alone makes the ontological proof worth

proving; for arguments about the existence or non-existence of God are mere quarrels about words, except in so far as they are concerned with moral issues. But moral issues cannot be solved by a consideration of purely intellectual assumptions. The nature of the other two proofs of God's existence makes this clear. The second, the cosmological, is the argument that if anything exists, something must necessarily exist. Kant's answer is that this is sound so far as it goes, but it does not prove that what necessarily exists is a morally perfect being. The third, the physico-theological argument, is the familiar argument from design. Kant this argument with much greater respect than her two, but insists that we must see how far it us. If we are going to infer the nature of the nature of the world as we see it, we must o ly. But though we see design in the world, h see perfection, and on the basis of this argu- we cannot ignore the imperfection and want which is as patent as the harmony and design. alysis of these proofs seems negative. Its real to insist that religion cannot be dissociated al experience, that the knowledge of God, s the concern of religion, is not got by intellectual speculation, but in the moral life. When he said that he had limited reason to make room for faith, he did not mean that men could not prove the existence of God, but might believe in it if they pleased. He meant that God is implied and known above all in moral action. His criticism of these classical proofs is thus the beginning of that revivified philosophy of religion whose chief representatives have been Schleiermacher and Ritschl.

CHAPTER VI

KANT'S MORAL THEORY

KANT'S moral theory is an integral part of his philosophical system. If the *Critique of Pure Reason* argues the impotence of reason in the sphere of speculation, the *Critique of Practical Reason* affirms its sovereignty in the sphere of practice. The second *Critique* is thus the complement of the first. Kant's treatment of moral problems being largely the consequence of the conclusions of the first *Critique*, his moral theory is thus mainly metaphysical. The title of one of his works on moral theory, *Fundamental Principles of the Metaphysic of Morals*, bears this out. There were, no doubt, other influences which had their effect on his conception of morality. He tells us himself that he was inspired by the teaching of Rousseau on the dignity and worth of man. He was undoubtedly repelled into a reaction against the sentimental school of Shaftesbury, which in its German adherents insisted on the agreeable and gentlemanly nature of virtue with an almost sickly sentiment. This reaction accounts for the extreme emphasis laid by Kant on the divorce between duty and any kind of inclination. But his doctrine as a whole can only be understood in the light of the conclusions of the first *Critique*.

Kant's conception of freedom or autonomy of the will is the key to his moral theory. "On the hypothesis of

freedom of the will," he says, "morality together with its principle follows from it by mere analysis of the conception." We saw in the last chapter that Kant regarded human action, when looked at from an anthropological point of view, as phenomenal, and therefore subject to the law of cause and effect. If we think of man as a creature of inclination, with likes and dislikes, we seem, in considering men's differences from one another in this respect, to be dealing with matters of fact over which men have no control. We are born and grow up with different natures, with the result that one man likes one thing, another another; one man's temptations do not tempt another, what one man finds easy another finds difficult. We seem here to be in a world where causation rules. If men act differently, it is because their external environment, acting upon their different natures, calls out different responses. So far, then, says Kant, as men act according to inclination, do things because they like doing them, or avoid them because they dislike them, their actions are what he calls heteronomous, governed by laws over which they have no control. We assume, whenever we are trying to explain human actions, that they are the result of the interaction of character and environment, and are not to be praised or blamed but understood. *Tout comprendre est tout pardonner*

But when we consider our moral judgments we seem to be in a different world, for there are some actions which we think we or others ought to have done or ought not to have done, and this obligation has nothing to do with our likes and dislikes. If we look back upon a past action of our own, we may see why we did it, understand how the temptation to it appealed

with peculiar strength to something in our nature, yet nevertheless we may say that we ought not to have done it, and with that judgment goes the conviction that we need not have done it. The conception of "what ought to be" is on a different plane from the conception of "what is," and assumes a different kind of causality. It assumes that, when we are done with our analysis of character, of a man's likes and dislikes and the effect of circumstances upon them, we can still assume that it is in his power to do what he ought and to abstain from doing what he ought not. We praise the first and blame the second, whether in ourselves or others, just because we assume, over and above inclination and disinclination, a possibility of acting or not acting as duty demands.

Thus Kant analyses the assumption of moral judgment. But it is still no more than an assumption, and he has to ask how it can be reconciled with the seemingly contradictory principle of causation. The analysis of the third antinomy in the first *Critique*, as we saw, prepared the way by maintaining that the same action might be phenomenally determined, and free as the action of a thing in itself, were there another form of causality—free causality or self-determination. For the existence of such another form of causality the first *Critique* offered no evidence. Kant's concern is to show that morality assumes it; for the claim of duty is that a man should not act as a creature of inclination, of likes and dislikes. Duty claims to cut across all such empirical considerations. The motive to do what duty demands must come from elsewhere. It may then be found to be a claim that man should act not as a part of the physical world, but as a moral being. For

man, as well as an observer and understander of other men, is also a moral agent. As such he stands in quite different relations to other men. He treats them and himself as moral agents, responsible for their actions. As a member of the world of moral relations he acknowledges a system of rights and duties, he holds himself responsible to other men as they are responsible to him, and all this has nothing to do with what a man wants or does not want to do, with how easy or how difficult he may find it to perform what duty demands. In this he is assuming in himself and other men a power of determining the will in accordance with the moral law. That, just because it takes no account of likes and dislikes, cannot be derived from these or from considerations of circumstances or environment. It must be deducible from the nature of man as a moral being. In obeying the moral law, then, man will be obeying a law that comes from himself. His will will be self-legislative. This power of acting in accordance with a law that comes from the nature of man as a rational, responsible being, and not as a member of the world of causes and effects, is moral freedom; it is the assumption of all moral judgment and action. It cannot, Kant holds, be *explained*. For all explanation is the work of the understanding, and that can explain only phenomena. It is enough that the first *Critique* has shown that phenomenal causality is not inconsistent with the possibility of another causality. In the moral sphere we act and judge as if we were free. The moral law and duty make claims upon us on the same assumption. Moral freedom, then, is the ground of the possibility of moral experience.

Kant's account of duty is determined by the sharp

separation which he makes of man as moral agent and man regarded "from the point of view of anthropology." The commands of duty must be derived solely from the nature of man as a moral agent. If they were the consequence of man's empirical nature or his surroundings, they would have no claim to override his promptings of inclination or pleasure. He describes these commands as categorical, and the principle of morality as a categorical imperative. The meaning of this phrase lies in its opposition to hypothetical. Many commands and principles are, Kant says, hypothetical. They assume that men desire certain ends, happiness or health or success, and the actions they advise are advised as means to such ends. The law of morality is quite different from such prudential maxims. It does not say, "If you want to be happy or to save your soul, then act thus and thus." Its commands are absolute, for they appeal to man simply as a rational being. They must therefore be derived solely from a consideration of man's rationality. It is difficult at first sight to see how any commands can be deduced from a consideration so abstract. How, we might say, can man's rationality be known and recognised except in the content of what he does and thinks?

Kant seeks to derive his imperative from the contrast between acting as a moral agent and following inclination. Man regards himself as a moral agent, morally responsible for his conduct, and he regards others as morally responsible, whatever his or their particular nature or character may be. That means that he must act as he thinks any one else would be bound to act, and from this Kant deduces his formulation of the categorical imperative: "*Act only accord-*

ing to that maxim which you can at the same time will to be a universal law." Another formula indicates more clearly the relation of duty to a society of moral agents responsible to one another: "*Act so that you treat humanity, in your person and in the person of every one else, always as an end as well as a means, never merely as a means.*" It is only by following such imperatives that we can rise above the promptings of circumstance, for only thus is the will self-legislative. In obeying such an imperative our will is self-determined, for it is following a principle that is derived from man's nature as independent and transcendent of the world of phenomena. Hence in moral action we are in contact with the reality of things more truly than in any understanding of phenomena. The moral law has a dignity which no natural inclinations or likings can have, and the good-will, the will which follows such a law, has a similar worth and dignity. "There is nothing in the world—nay, even beyond the world—nothing conceivable, which can be regarded as good without qualification, saving alone a good will."

Such in outline is Kant's account of morality. A discussion of some of the difficulties which a consideration of it suggests may help to make its purport more clear. Kant holds that the principles of right action can be deduced directly from the imperative he has formulated, and need take therefore no account of historical circumstance. Now, it is easy to show that, when we do an action which we know to be wrong, we are making an exception in our own favour. We cannot universalise the maxim of our own conduct. When we do what we know to be wrong, we recognise what is right. We say, "This is how any one ought to act in

these circumstances, but I am not going to do it." We must learn to look upon ourselves as we should look upon and judge any other moral agent. If, when taxed with wrongdoing, we reply, "I wanted to do it," or "That is the kind of person I am," or "That is the way I am made," we are abandoning the moral position, and the answer is, "Whether you wanted it or not, you ought not to have done it," or, "Well, you ought to become different." But this does not help us when, looking at actions from a moral standpoint, it is difficult to say what ought to be done. Kant tries to show that wrong action, if universalised, is always contradictory. He takes the instance of telling a lie. If that were universal no one would believe any one else, and there would be no point in telling a lie. Lying is essentially parasitical. But this does not help us in the familiar problem in casuistry, whether it is allowable to tell a lie to save life. For here we have a conflict between two maxims, both of which can be universalised. We cannot regard such a situation as simply involving a question of telling the truth or of saving life. We must consider the circumstances of the case. This is even more evident if we apply Kant's rule to the question of whether celibacy is ever justified. If celibacy were universal, there would soon be nobody to be celibate, but it does not therefore follow that some people under certain circumstances ought not to be celibate. The question cannot be answered without reference to circumstances. The moral of this is that the categorical imperative does not enable us to act without individual moral judgment in individual cases. Further, in one of the instances which Kant gives he admits that there are certain ways of action which might be universalised,

but which he nevertheless holds to be wrong. He instances the duty of being industrious. A society could quite well be imagined in which every one was lazy, but he says, "It cannot be willed." The ultimate appeal here is to what the moral reason wills. That means that we must admit that the moral reason or moral judgment has a content not derivable simply from the conception of the moral law; that there are certain kinds of life, certain kinds of action, which we judge to be good, and others which we judge to be bad. But, if this is so, we must give up the sharp separation Kant makes between the moral law and nature, and allow that things in nature can have a moral value. It may still be true that they only have moral value through their relation to a good will, and have no moral significance apart from such a relation.

The difficulties created by Kant's sharp separation of the moral and the phenomenal worlds are equally apparent in his discussion of motives. He conceives the individual as phenomenal, to be determined solely by pleasure and pain. The power of the moral law is manifest, therefore, when its commands run counter to inclination, and the motive of respect for the moral law conquers inclination. It is true to say that a man's likes and dislikes in themselves are not to the point when we are asking what he ought to do, but Kant sometimes speaks as though there could be no moral value in an action which did not go against inclination. This is perilously near that morbid theory of conscience which assumes that the fact that an action would be very disagreeable to the agent is itself proof that the proposal to perform it is the voice of conscience. Here again we have to say that the fact that inclinations

viewed merely as inclinations have no moral value, does not show that, relatively to the good will, one may not be better than another. There is nothing to be proud of in the fact that we dislike doing our duty.

This sharp separation between the world of morality and science was somewhat tempered in Kant's third *Critique*, which we shall examine in the next chapter.

CHAPTER VII

THE "CRITIQUE OF JUDGMENT"—ÆSTHETICS AND TELEOLOGY

THE *Critique of Judgment* is at once the most interesting and the most difficult of Kant's three *Critiques*. It seems to cover a much wider ground than either of the two earlier *Critiques*. It concerns itself with the relation of empirical investigation to the a priori principles of understanding discussed in the first *Critique*, with an attempt to bridge the gulf between the world of freedom and the world of nature as described in the second *Critique*, with a discussion of the principles of æsthetics and of the conflict between the rival claims of the principles of mechanism and teleology, a conflict which, since the discoveries of Darwin and the increasing interest taken in biology, is becoming every day more important. On all these points Kant has much of importance to say. Modern theories of æsthetic are mainly based on an acceptance of the distinctions which he first laid down clearly. Much modern philosophy of a type which is little in sympathy with the doctrines of the first *Critique*—Pragmatism, for example—is an elaboration of his account of the regulative principles which guide empirical investigation, while speculation on the rival methods of biology has hardly advanced beyond the solution suggested by Kant. Yet the very suggestiveness of this book makes it hard

to understand. It is difficult to see the connection which Kant supposed to exist between these very various problems. The form of the book, like the form of the first *Critique*, is marked by subdivisions suggested by formal logic, which seem to have little or no connection with the subjects discussed under them, so that the whole is a curious combination of formal system and discursive content. Kant himself regarded this *Critique* as the triumphant vindication of his whole system, in that it brought together and reconciled subjects which he had previously distinguished too sharply. Many later writers have thought rather that in it the inconsistencies which they believe to exist in Kant's thought come to a head.

We have not space here to vindicate the *Critique of Judgment* as "the crowning phase of the critical philosophy," as a recent writer has called it, or to examine singly Kant's treatment of the various subjects of interest with which it is concerned. It is important, however, to follow the connection which Kant supposed to exist between these different subjects. If we can understand that, we shall gain considerable insight into Kant's system as a whole.

Kant names the book the *Critique of Judgment*, or, more exactly, the *Critique of the Faculty of Judgment*. Judgment is distinguished from understanding, whose principles are more peculiarly the subject of the first *Critique*. The understanding, according to Kant, is the faculty of rules. Judgment is shown in the application of rules to individual instances. It is the element of individuality and spontaneity in all thinking, for which no rules can be discovered. Judgment cannot be taught, different men possess it in different degrees; it

is akin to genius. When, then, Kant turns to examine the faculty of judgment, he is asking whether the mind, in dealing with individuals in all their variety and difference, and in attempting to understand them, is guided by any general rules or principles. The import of this question becomes clear in his relation of it to the familiar question of causation. The principle of causation, as we have seen, is, according to Kant, an a priori principle of the understanding, and is assumed in all experience; but it does not of itself enable us to determine in any particular case what causes what. That is the task of empirical investigation, and needs, as we know, the imagination and insight of the individual investigator; in Kantian language, it is the work of the faculty of judgment. Besides the a priori principle of causation, therefore, we have an indefinite number of empirical causal laws. Kant asks whether the scientist in investigating such laws, and more particularly in considering their relation to one another, is guided by any principles. He finds that the scientist assumes that this indefinite variety is capable of being reduced to some kind of unity, assumes that there is continuity in nature, that knowledge will not remain an aggregate of disconnected rules. Chemistry, for example, has discovered that the overwhelming variety of natural changes can be reduced to the action and interaction of a small number of elements. The chemist proposes to go on and see whether the different elements may not themselves be seen to be forms of one substance.

These assumptions are, according to Kant, quite different from the principles of the understanding. For the latter are grounds of the possibility of experience.

We cannot deny them without making experience unmeaning. This cannot be said of the former. It obviously cannot be essential to experience that the multiplicity of the laws of nature should be reducible to unity, for such unity has never been discovered. Experience has been quite possible without it. This distinction between two kinds of principles Kant expresses by calling those with which we are now concerned regulative. The purpose they serve is the regulation and improvement of knowledge. They do not, like the principles of the understanding, prescribe to nature. We assume in them that nature is, in Kant's words, purposive to the understanding—that is, we first think out what order of nature would be intelligible, and then look to see whether we cannot discover in nature such an order. This assumption does not prove that there is any such order, but in science we act as if it were there to be found out.

This suggestion of Kant's has been elaborated in many modern writers on philosophy, who have pointed out how much scientific method is governed by the notion of the most easily intelligible theory, and they have argued that science assumes, for the convenience of method, principles which it never completely proves. These principles are called sometimes methodological assumptions, sometimes postulates. The difference between such modern writers and Kant is that the former think that all a priori principles are of this nature, and that the principle of causation, for example, is itself only a postulate.

The faculty of judgment, then, according to Kant, assumes for regulative purposes that nature is purposive to our understanding. What does this last phrase

mean? We are often concerned to know the relation of things to our purposes. It has been pointed out that very many of our empirical concepts represent rather our practical interest in things than our desire to understand them as they are. Kant's phrase implies that, apart from any such relation to particular purposes, there is a more general purpose of mere intelligibility, which some objects obviously serve more than others.

Here we pass to the consideration of art, for in our judgments of beauty Kant holds that we similarly disregard the relation of the beautiful object to any particular purpose, and seem to be concerned with general purposiveness. The judgment of beauty is, for Kant, the supreme act of the faculty of judgment. It is reflection on an individual for its own sake, without attempting to fit it to our desires or see it as an instance of our concepts or rules. Kant therefore proceeds to examine our judgments of beauty, which show how reflection on individual objects may display general rules, and then proceeds, in the last part of the *Critique*, to discuss the part played by the concept of purposiveness in our understanding of nature.

It would seem at first sight that Kant is not interested in art for its own sake, but for the light which it throws upon the nature of our intellectual faculties. Nevertheless he is careful to insist on the distinction between artistic and scientific judgments. The judgment of beauty, he insists, is free, is not determined by a concept. We are not concerned, in such judgments, with asking what an object is. In so far as, in our appreciation of beauty, we bring in such considerations we are wrong. He therefore rules out any theory that beauty is concerned with faithful representation. Beauty con-

sists in the form of an object, and in nothing else. The judgment of beauty, besides being free, is also disinterested. The relation of the beautitul object to our purposes is irrelevant to its beauty. The judgment of beauty cannot, therefore, be determined by rules of any kind. It is always individual and immediate, and the immediate feeling of beauty counts for more than any rules or canons of taste. Kant therefore vindicates art as independent of either science or morality. Yet, once we realise its independence, the nature of art throws light upon both science and morality; for the judgment of beauty, although free and not determined by concepts, claims universal validity. We might put Kant's point in another way by saying that art is significant, and yet is not significant of anything *in particular*. Its meaning cannot be reduced to scientific statement nor abstracted from its form, and yet art has meaning. Kant finds the explanation of the fact that the judgment of beauty is free, and yet claims universal validity, in the suggestion that a beautiful object is one the contemplation of which arouses and enlivens the two faculties of the intelligence, the imagination and the understanding, in their proper proportion or harmony. All knowledge needs imagination, the power of seeing resemblances and differences in objects, and understanding which by concepts gives unity and rules to the imagination. In science the imagination is subordinate to the understanding, for the aim of science is definiteness and precision. In art the imagination is free, and yet art is not the mere seeing of resemblances and differences; it also has its unity. It aims at the best proportion of variety and unity. This is independent of the varying

natures of individual persons, and therefore the judgment of beauty can claim to be universally valid.

Beautiful objects, then, are "purposive to the understanding," inasmuch as their form stimulates in the most harmonious degree the two faculties of intelligence, and in art we find proof that there is a principle of general intelligibility, which may guide the work of the scientist. The purpose of the scientist is quite different from that of the artist, but if he is to reduce his facts to order and intelligibility he must be guided by a principle which is seen in its pure form in the artist.

In the second place, an understanding of the nature of art has significance for moral theory, because the judgment of beauty is disinterested, and shows that pleasure may be independent of desire. In æsthetic pleasure we are not merely determined by our inclinations, for art is of all human activities free and creative. We enjoy art not because it serves any of our individual desires and purposes, it is enjoyed by something in us that is universal. Art, then, contradicts the position which Kant assumes in the second *Critique*, that we cannot follow pleasure without being slaves of our phenomenal nature. It is a disinterested enjoyment, and is witness to the possibility of disinterested pleasure in the good. Further, Kant held that in one kind of æsthetic enjoyment, appreciation of the sublime, the contrast between our weakness and the vast extent and overwhelming powers of nature, calls forth in us a conviction accompanied by pleasure of the yet greater might of the moral law within us. Art therefore may become the symbol of morality, and the third *Critique* does much to soften the rigour of the teaching of the second.

In the last part of the *Critique of Judgment* Kant applies his doctrine of regulative principles to the understanding of nature. The faculty of judgment, as we saw, is concerned with the attempt to give unity to the detail of the natural world. In this work it has two regulative principles, mechanism and teleology. Reality cannot be formed according to both these principles; for mechanism assumes that reality can be regarded as a pattern or complex of recurring or interchangeable parts whose changes are necessitated, teleology that the world cannot be explained without supposing purpose to be an operating agency in change. Mechanism seeks to explain things as the necessary result of their original condition, teleology in the light of their highest development. The two principles have therefore been held to be inconsistent. The scientist, jealous for the validity of his discovery of mechanism, combats the very notion of purposive agency. The theologian thinks that to admit mechanism anywhere is to give up his whole position.

Kant's solution of this antinomy is that both mechanism and teleology are only regulative principles. They tell us nothing of the ultimate nature of reality, except that we can explain much of it by regarding it as if it were a machine, and much by regarding it as if it were the field of purposive agency. Reality must be consistent with both these facts, but more we cannot say. The moral is that we should continue to treat them as regulative principles, and push each principle of explanation as far as it will go.

Kant is here, as usual, the enemy alike of scientific and of theological dogmatism. He will not allow any limit to be set to the work of scientific investigation,

and yet will not allow a principle of scientific method to be converted from an explanation of perceived facts into a theory of the universe.

Besides mediating between the conflicting claims of mechanism and teleology, Kant also modifies the notion of teleology. When we think of reality as purposive, we do not necessarily think of it as having a definite purpose, as being subordinate, for example, to the well-being of man. The principle of purposiveness arises properly, he holds, from the contemplation of living things, from the perception of the difference between an organism and a machine. An organism is purposive in the sense in which a work of art is. In applying the principle we are trying to understand reality as though the relation of all the different things in it were like the relation of the parts of an organism or a picture. But this principle, like the principle of mechanism, does not carry us further than the facts we have examined, for an organism or a work of art can only be understood by study of the individual relations of all its parts. We can never know the universe as an organism, for we can never know all its parts. We can understand and put together more and more of them, but we never come to the end.

The third *Critique*, then, enforces the lesson of the first, that knowledge is the work of individual finite minds, trying to understand elements in a whole that transcends the limits of their experience, pushing back the spatial and temporal limits which confine each individual, but never removing them altogether. The critical philosophy teaches the impossibility of absolute knowledge, but it does so not by suggesting general scepticism of all knowledge, but by enforcing the validity of scientific knowledge within its own limits.

BIBLIOGRAPHY

Translations

There are two accessible translations of the *Critique of Pure Reason*—Meiklejohn (Bell & Co.) and Max Müller (Macmillan).

Kant's ethical writings have been translated by Abbott (Longmans).

There is a translation of the *Critique of Pure Reason* by Bernard (Macmillan), and of the first part of it, the *Critique of Æsthetic Judgment*, by Meredith (Clarendon Press). This last book has introductory essays and notes.

The student beginning the study of Kant will find *Watson's Selections from Kant* (MacLehose & Sons) useful if he cannot read the *Critiques* in full.

Commentaries

The most useful small books on Kant are Adamson, *The Philosophy of Kant* (Blackwood), and Watson, *The Philosophy of Kant Explained* (MacLehose). The best and most thorough work on Kant in English is Caird, *The Critical Philosophy of Kant*, 2 vols. (MacLehose).

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